What is claimed is:

1. A method of collecting embryonic-like stem cells from a placenta which has been treated to remove residual cord blood said method comprising:

perfusing a placenta which has been drained of cord blood with an anticoagulant perfusion solution to flush out residual cells and embryonic-like stem cells from said drained placenta, and

collecting said residual cells and embryonic-like stem cells and perfusion solution from the drained placenta.

2. The method of claim 1 further comprising separating said embryonic-like stem cells from said residual cells and anticoagulant perfusion solution.

3. The method of claim 1 wherein the placenta is perfused with the anticoagulant solution by passing the anticoagulant solution into one or both of the umbilical artery and umbilical vein of said placenta.

4. The method of claim 1 including collecting said residual cells and said anticoagulant perfusion solution from the part of the placenta that was attached to the wall of the uterus of the mother.

5. The method of claim 2 including said embryonic-like stem cells are separated from said residual cells and anticoagulant perfusion solution by centrifugation.

6. The method of claim 1 including

continuing perfusion of said placenta for maintaining placental viability,

flushing out additional residual cells and additional embryonic-like stem cells,

collecting said additional residual cells, said additional embryonic-like stem cells and said additional anticoagulant perfusion solution, and

separating said additional embryonic-like stem cells from said additional residual cells.

7. The method of claim 6 including maintaining said perfusion of said placenta for stimulating the production of new cells and bioactive molecules, and collecting said newly produced cells and said bioactive molecules from said placenta.

8. The method of claim 6 wherein the residual cells and embryonic-like stem cells are collected over a period of 24 to 48 hours after birth.

9. The method of claim 6 wherein the placenta or cells in the placenta are stimulated to produce bioactive molecules.

10. The method of claim 7 wherein said newly produced cells and bioactive molecules are collected over a period of 24 to 48 hours after birth.

11. The method of claim 6 wherein the cells in the placenta are genetically engineered with exogenous DNA.

12. The method of claim 7 wherein the newly produced cells are genetically engineered with exogenous DNA.

13. A method of propagating exogenous cells in a placental bioreactor which has been treated to remove residual umbilical cord blood, comprising:

perfusing a placenta which has been drained of cord blood with an anticoagulant perfusion solution to flush out residual cells and embryonic-like stem cells,

collecting said residual cells, said embryonic-like stem cells, and said anticoagulant perfusion solution from the drained placenta,

removing all remaining viable endogenous cells from the drained placenta,

perfusing the placenta with nutrient perfusion solution,

introducing exogenous cells into the perfused placenta,

incubating the perfused placenta with exogenous cells, and

collecting propagated exogenous cells from the perfused placenta.

14. The method of claim 13 wherein the remaining viable endogenous cells are removed by irradiation of the perfused placenta.

15. The method of claim 14 wherein the irradiation is selected from electromagnetic, ultra-violet, X-ray, gamma-, and beta- radiation.

16. The method of claim 13 wherein the exogenous cells are stem cells.

17. The method of claim 16 wherein the stems cells are hemopoietic pluripotent stem cells.

18. The method of claim 13 wherein the exogenous cells are stimulated to produce bioactive molecules.

19. The method of claim 18 wherein the bioactive molecules are collected prior to collecting the propagated exogenous cells.

20. The method of claim 13 wherein the exogenous cells are stimulated to propagate by introducing growth factors selected from cytokines, hormones, promoters, repressors, proteins, nucleic acids, viruses, and immunogens.

21. The method of claim 13 wherein the exogenous cells are selected from animal cells, insect cells, or human cells.

22. The method of claim 13 wherein the exogenous cells in the placenta are genetically engineered with exogenous DNA prior to collecting or during propagation in the perfused placental bioreactor.

23. The method of claim 22 wherein the exogenous DNA is introduced into the exogenous cells propagated in the perfused placenta via a vector selected from viral, adenoviral, and retroviral vectors.

24. The method of claim 22 wherein the exogenous DNA is introduced into the exogenous cells by a method selected from mechanical introduction of the exogenous DNA, chemical mediated uptake of the exogenous DNA, and liposomal mediated uptake of the exogenous DNA.